

FIG. 1 is a schematic diagram of a system 100 for controlling a vehicle 101. The system 100 includes a processor 102, a memory 103, a sensor 104, a display 105, and a control unit 106. The processor 102 is connected to the memory 103, the sensor 104, the display 105, and the control unit 106. The sensor 104 is connected to the processor 102. The display 105 is connected to the processor 102. The control unit 106 is connected to the processor 102. The system 100 is used to control the vehicle 101.

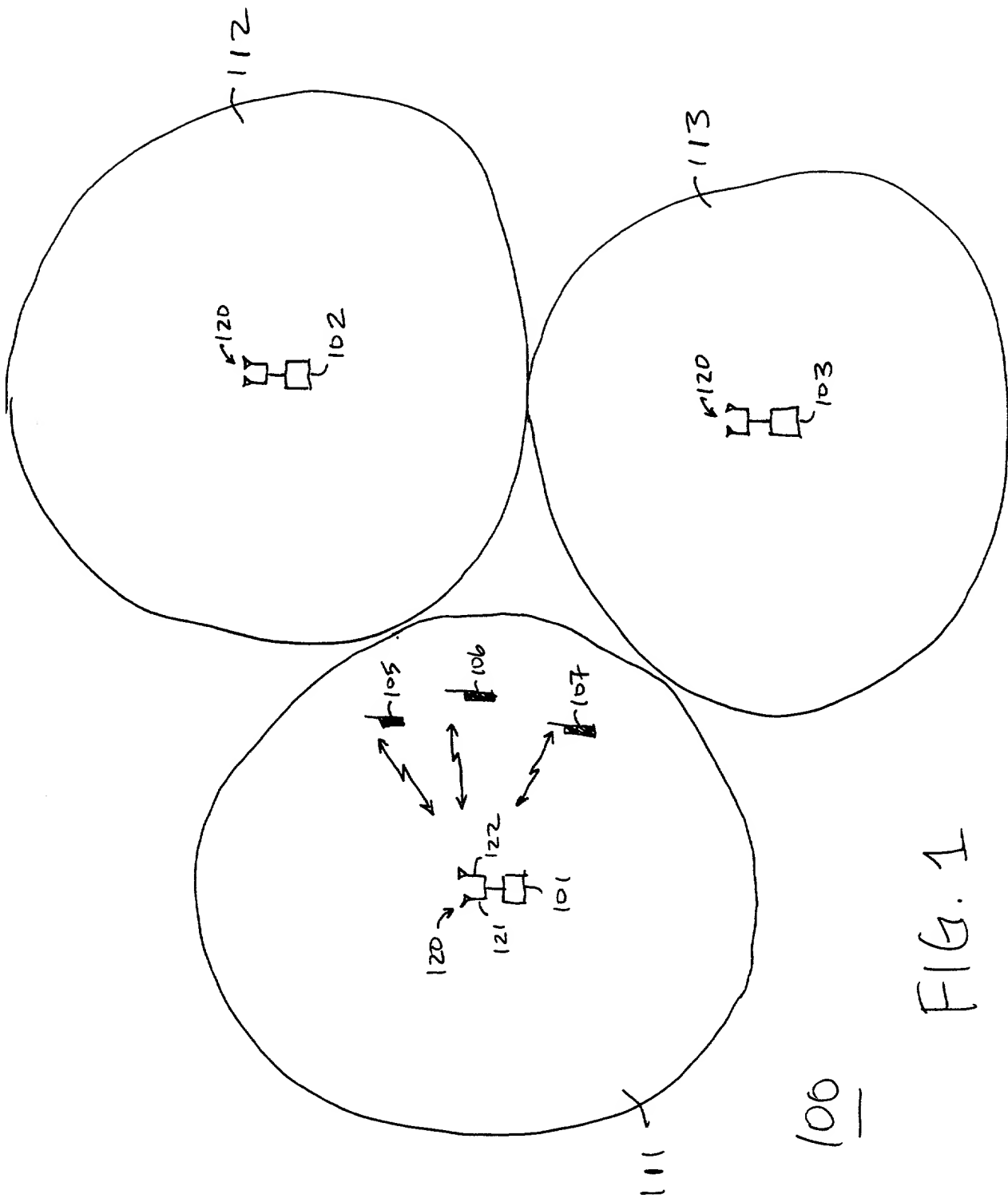


FIG. 1

101-103

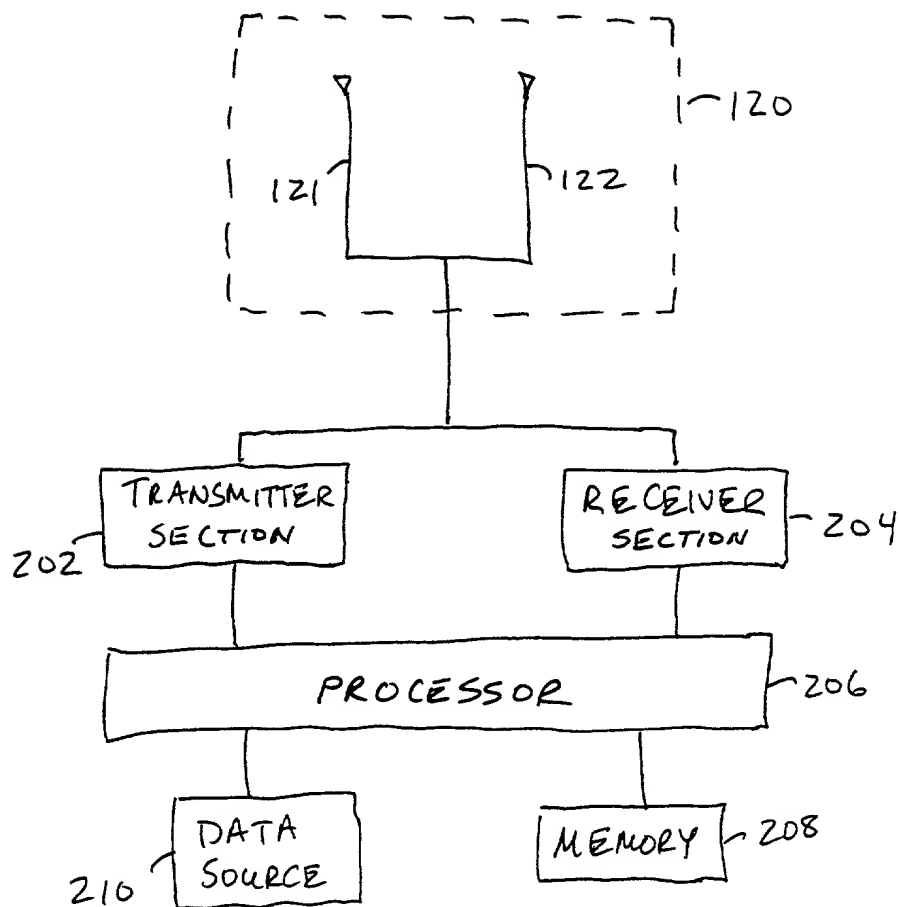


FIG. 2

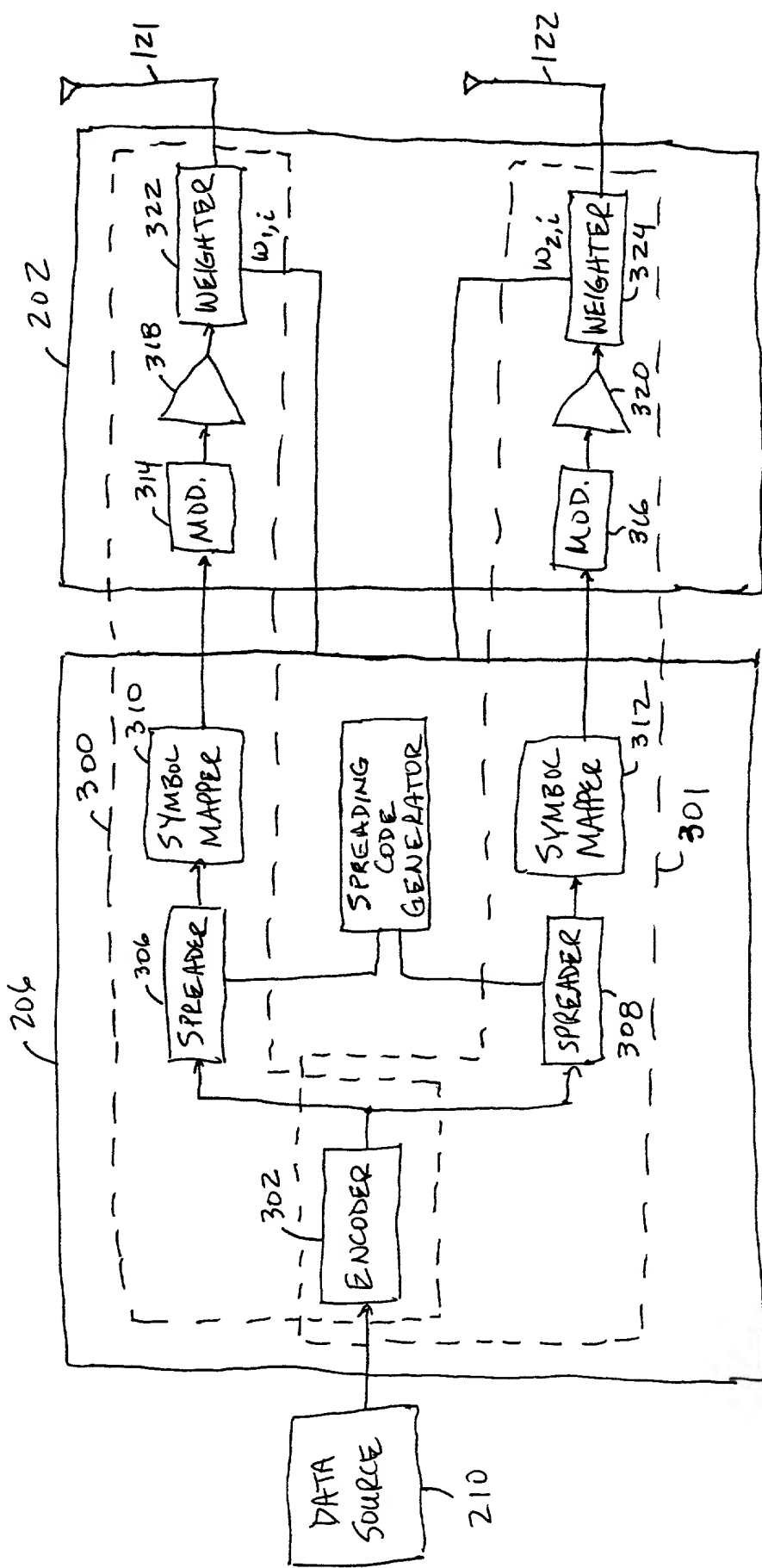


FIG. 3

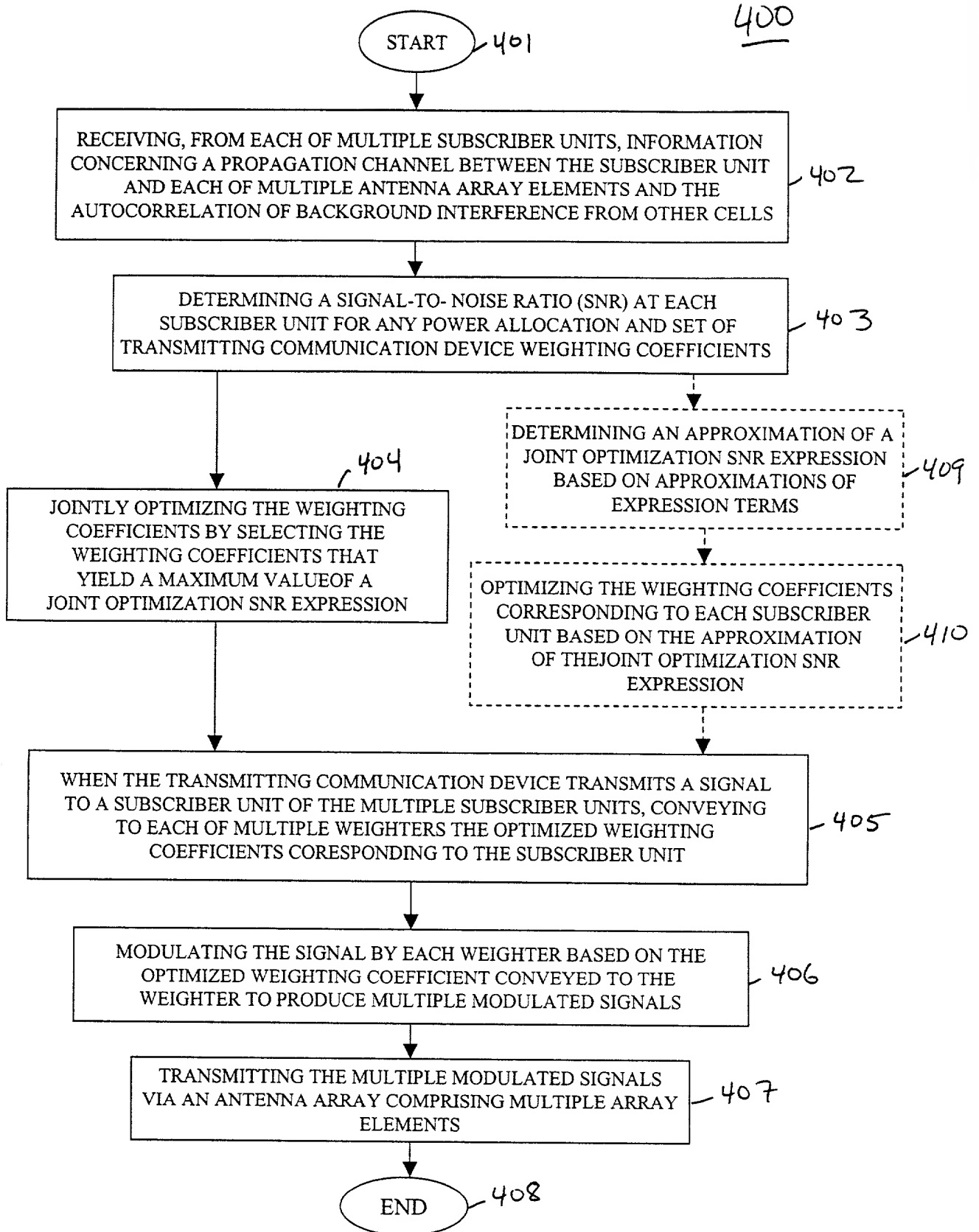


FIG. 4

	$(E_s/N_t)_{\text{TxAA}} - (E_s/N_t)_{\text{STD}} \text{ (dB)}$			
E_c/I_{or}	$I_{\text{or}}/I_{\text{oc}} = 0 \text{ dB}$	$I_{\text{or}}/I_{\text{oc}} = 5 \text{ dB}$	$I_{\text{or}}/I_{\text{oc}} = 10 \text{ dB}$	$I_{\text{or}}/I_{\text{oc}} = \infty \text{ dB}$
0.05	2.00	1.66	1.28	0.92
0.1	1.94	1.52	1.07	0.61
0.2	1.82	1.25	0.62	-0.03
0.5	1.44	0.37	-0.93	-2.45
0.9	0.91	-1.01	-3.85	-9.88

A comparison of the performance of TxAA antenna array weighting and STD as a function of $I_{\text{or}}/I_{\text{oc}}$ and E_c/I_{or} .

FIG. 5

	$(E_s/N_t)_{\text{Optimal}} - (E_s/N_t)_{\text{TxAA}} \text{ (dB)}$			
E_c/I_{or}	$I_{\text{or}}/I_{\text{oc}} = 0 \text{ dB}$	$I_{\text{or}}/I_{\text{oc}} = 5 \text{ dB}$	$I_{\text{or}}/I_{\text{oc}} = 10 \text{ dB}$	$I_{\text{or}}/I_{\text{oc}} = \infty \text{ dB}$
0.05	0.02	0.09	0.21	0.36
0.1	0.03	0.13	0.29	0.51
0.2	0.05	0.22	0.51	0.90
0.5	0.14	0.65	1.55	2.84
0.9	0.36	1.62	4.03	9.89

A comparison of the performance of optimized transmitter antenna array weighting of the present invention (optimal) with the TxAA transmitter antenna array weighting of the prior art as a function of $I_{\text{or}}/I_{\text{oc}}$ and E_c/I_{or} .

FIG. 6